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ABSTRACT

According to a recent model of alcohol use (Hull, 1981), individuals moderate their sensitivity to the implications of success and failure by drinking following personal failure to reduce self-consciousness and not drinking following success to remain self-conscious. To test the hypothesis that adolescent alcohol consumption would be a joint function of the individual's level of private self-consciousness and personal experiences of success and failure, 819 high school students completed a self-consciousness inventory, a questionnaire dealing with environmental and behavioral factors relating to drinking, and an index of weekly alcohol consumption. Consistent with the hypothesis, results showed personal success/failure in school was significantly more predictive of alcohol use among high than low self-conscious individuals. In addition, for both high and low self-conscious subjects, alcohol use was shown to be a function of the individual's general level of behavioral deviance and friends' attitudes and behaviors toward alcohol use. Even after taking into consideration these alternative predictors, alcohol use remained more strongly associated with personal success/failure among high than low private self-conscious individuals. (Author/JAC)

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Alcohol Use as a Function of Self-Consciousness and Academic Performance

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Running head: Adolescents and Alcohol

Abstract

According to a recent model of alcohol use (Hull, 1981), individuals moderate their sensitivity to the implications of success and failure by drinking following personal failure to reduce self-consciousness and not drinking following success to remain self-conscious. On the basis of this model, it was hypothesized that adolescent alcohol consumption would be a joint function of the individual's level of private self-consciousness and personal experiences of success and failure. Furthermore, it was predicted that this would remain true after taking into consideration other known predictors of adolescent alcohol use. Consistent with this hypothesis, personal success/failure in school was found to be significantly more predictive of alcohol use among high than low self-conscious individuals. In addition, for both high and low self-conscious subjects, alcohol use was shown to be a function of the individual's general level of behavioral deviance and friend's attitudes and behaviors toward alcohol use. Even after taking into consideration these alternative predictors, alcohol use remained more strongly associated with personal success/failure among high than low private self-conscious individuals.

Alcohol Use as a Function of Self-Consciousness and Academic Performance

Recently, Hull (1981) proposed a self-awareness model of the causes and effects of alcohol consumption. The major premises of this model may be summarized as follows: (a) alcohol interferes with encoding processes fundamental to a state of self-awareness, (b) insofar as self-awareness is associated with socially appropriate forms of behavior, alcohol consumption will be associated with decreases in socially appropriate behaviors, (c) insofar as self-awareness is associated with negative self-evaluation following failure, alcohol consumption will be associated with decreases in negative self-evaluation following failure, and (d) alcohol may be consumed for its specific effect of decreasing self-awareness following failure in order to decrease negative self-reactions and avoided following success in order to maintain positive self-reactions.

In support of this reasoning, a series of studies by Hull, Levenson, and Young (1983) have demonstrated that (a) alcohol consumption reduces self-awareness, (b) this effect does not depend on subjects' knowledge about the content of the beverage they are consuming, and (c) alcohol would appear to have this effect by virtue of inhibiting self-relevant encoding processes. In addition, Hull and Young (1983) have demonstrated that individuals high in private self-consciousness drink the most alcohol following failure feedback and the least following success feedback. On the other hand, low self-conscious subjects did not appear to regulate consumption on the basis of previous success-failure. Hull and Young (in press) report a conceptual replication of this pattern using alcoholic relapse as a criterion: detoxified alcoholics who were high in private self-consciousness and had experienced predominantly negative life events

were most likely to relapse, high self-conscious alcoholics who had experienced predominantly positive life events were least likely to relapse, and relapse of low self-conscious alcoholics fell between these extremes and did not vary according to the quality of previous life events. Taken together, this series of studies demonstrated that (a) alcohol has the effect of reducing self-awareness, and (b) individuals use alcohol to reduce self-awareness in the face of personal failure and avoid alcohol to remain self-aware following personal success.

A study was designed to investigate whether the motive of self-consciousness reduction following personal failure and self-consciousness maintenance following personal success is relevant to adolescent alcohol consumption. Academic performance was chosen as an important indicator of personal success and failure in this population. It was predicted that academic performance would be negatively associated with alcohol consumption to a greater extent among individuals high as opposed to low in private self-consciousness.

Beyond testing the applicability of the model to patterns of alcohol use in a vulnerable sub-population, it would also be useful to investigate the extent to which the self-awareness model accounts for unique variability in alcohol use. Several studies have found that drinking and drug related behaviors in adolescents are associated with psychological variables. According to Donovan and Jessor (1978), drinking is a direct function of factors related to the individual's proximal environment. Parental and peer attitudes and behaviors toward drinking and drug use are among the most important of these factors. Family approval and modeling of drinking is predicted to increase adolescent alcohol use. Likewise, approval, modeling, and pressure towards drinking on the part of friends is predicted to

increase consumption. Beyond these proximal environmental factors, drinking is proposed to take place within a system of generally deviant and conventional behaviors on the part of the individual. Behavioral deviance (e.g., lying, stealing, vandalism) is associated with increased levels of drinking; behavioral conventionality (e.g., religious attendance, school performance) is associated with decreased levels of drinking. In comparison with these environmental and behavioral factors, personality factors related to the individual's attitudes, values, and expectations are seen to be relatively distal to the act of drinking. Given the reasoning of Donovan and Jessor (1978), the present study sought to test the applicability of the self-awareness model while taking into account environmental and behavioral factors directly related to alcohol consumption.

Method

Subjects

Subjects were 819 male and female students from two Midwestern public high schools. Students' parents were presented consent forms in order to obtain permission for their child's participation in the study. Approximately 3% of the students and/or parents refused to participate. In addition, data from 65 subjects could not be used due to incomplete or inconsistent responses to the questions concerning alcohol consumption.

Instruments

The questionnaires were administered in the form of a multiple inventory booklet. Instructions were written on Indiana University Department of Psychology stationery. These instructions emphasized the research nature of the project and stressed the confidentiality of subjects' responses: "Information recorded in this booklet is for research purposes only and will be held in strictest confidentiality. Your answers will not

be given to anyone, not parents, not teachers, not school personnel. We do not want to know who you are."

Dispositional self-consciousness was assessed using the Fenigstein, Scheier, and Buss (1975) self-consciousness inventory. Three changes were made in this inventory because of concerns about the level of vocabulary necessary to complete the original form. These changes consisted of parenthetical definitions. The affected items were: item 5, I reflect (think) about myself a lot; item 9, I never scrutinize (carefully evaluate) myself; and item 16, I feel anxious (nervous) when I speak in front of a group.

In addition to the self-consciousness inventory, subjects completed questions based on the explanatory systems proposed by Donovan and Jessor (1978). Of particular interest in the present study were questions concerning environmental and behavioral factors directly related to alcohol consumption. With respect to proximal environmental factors, subjects completed questions concerning parental attitudes and behaviors toward drinking (parental models of drinking, 2 items; parental approval of drinking, 2 items), and friend's attitudes and behaviors toward drinking (friend's models of drinking, 1 item; friend's approval of drinking, 2 items; friend's pressure toward drinking, 1 item). With respect to behavioral factors, subjects completed questions concerning generally deviant acts (13 items), church attendance (1 item), and school performance (1 item). It should be noted that although Donovan and Jessor consider school performance to be a behavioral factor within their model, for present purposes it constitutes an indicator of personal success and failure at an important role. By simultaneously considering academic performance and

other indicators of conventional and deviant behaviors, it should be possible to distinguish these definitions in the present design.

In addition, subjects completed a series of questions on their quantity and frequency of three different forms of alcohol consumption (beer, wine, and hard liquor). Responses to these questions were combined to form a single index of weekly alcohol consumption. It should be noted that this index is slightly different from that employed by Donovan and Jessor (1978). Those authors were interested in predicting problem drinking: the frequency with which individuals drink to the point of being drunk and the frequency with which individuals experience negative social consequences as a function of drinking. Since the self-awareness model proposed by Hull is predictive of alcohol use per se, the quantity-frequency index was considered the most appropriate measure for testing the hypotheses of interest.

Procedure

Questionnaries were distributed in classrooms selected by school officials and were completed during regular school hours. Two Indiana University undergraduates monitored collection of the data in each classroom. Instructions for completing the questionnaires appeared on the cover page of the booklet. In addition, these instructions were read aloud by one of the monitors at the beginning of the period. The booklets took approximately forty-five minutes to complete. On completion, subjects placed the booklet in an unmarked envelope that was then collected by the monitor.

Results

The data were analyzed in three steps. First, given that the self-consciousness inventory has not been used in a pre-college population, analyses were conducted to insure the integrity of the scale. Second, the

differential relationship between self-relevant success-failure and alcohol use as a function of private self-consciousness was tested by comparing the correlations between academic performance and alcohol use in high and low self-conscious groups. Finally, this relationship was tested while including variables proposed by Donovan and Jessor (1978) to be directly related to adolescent alcohol use.

Factor analysis of self-consciousness inventory. To our knowledge, the self-consciousness inventory has not been used in a pre-college population. These data were therefore subjected to a preliminary factor analysis in order to verify the basic structure of the inventory. Roa's canonical factoring with varimax rotation was employed. Three factors were retained for final rotation (cf. Fenigstein, Scheier, & Buss, 1975). Each was associated with an eigenvalue above 2.00. Factor loadings appear in Table 1. The results are in keeping with expectations based on the original analysis (Fenigstein, et al., 1975) and two subsequent replications (Heineman, 1979; Vleeming & Engelse, 1981). Of the twenty-three items, twenty loaded more highly on the factor associated with the appropriate subscale of the original inventory than on either of the two remaining factors. One public self-consciousness item (item 2) loaded at modest levels on both the public and private factors. Finally, two private self-consciousness items (items 3 and 9) did not load on any of the factors. Interestingly, Vleeming and Engelse (1981) also found that neither of these items loaded on any of the three factors and Heineman (1979) found that although one item loaded appropriately, the other (item 3) did not load on any of the factors.

All three of the sub-scales were associated with reasonable levels of internal consistency (coefficient alpha for public self-consciousness = .79;

social anxiety = .75; private self-consciousness = .63). Our sample proved to be slightly lower in private self-consciousness than the college sample used by Fenigstein, et al. (1975) ($\bar{X}$ = 23.88 vs. 26.31), and slightly higher in public self-consciousness ($\bar{X}$ = 20.02 vs. 19.13) and social anxiety ($\bar{X}$ = 12.82 vs. 12.67). For purposes of subsequent analyses, a median split was conducted on the private self-consciousness sub-scale.

Self-consciousness, academic performance, and adolescent alcohol use. It had been predicted that indicators of personal success and failure would be more strongly related to alcohol use among high than low private self-conscious individuals. As in the Donovan and Jessor study, alcohol abstainers (defined as individuals who have not had a drink more than two or three times in their lives, N = 266) were excluded from these and all subsequent analyses. The principal indicator of success-failure in the present study involved self-reported academic performance. As predicted, academic performance was significantly correlated with alcohol use among high self-conscious individuals, $r(252) = -.36$, $p < .01$. In addition, it was correlated with alcohol use among low self-conscious individuals, $r(207) = -.16$, $p < .02$. In accord with predictions, the correlation between alcohol use and academic performance was greater for individuals high as opposed to low in private self-consciousness, $z = 2.21$, $p = .014$, one-tailed.

Finally, it was hypothesized that the differential effect of academic performance on alcohol use in high and low self-conscious subjects would continue to exist after taking into consideration psychosocial predictors suggested by Donovan and Jessor (1978) to be directly related to adolescent alcohol use. In order to test this hypothesis, a multiple regression analysis was performed in which academic performance, friends' attitudes and

behaviors toward alcohol, parental attitudes and behavior toward alcohol, general behavioral deviance, and church attendance were simultaneously used to predict weekly alcohol consumption. This analysis was performed separately in high and low private self-conscious groups.

Among high self-conscious individuals, the significant predictors of alcohol use were: academic performance, $F(1,200) = 14.33$, $p < .001$; general behavioral deviance, $F(1,200) = 8.48$, $p < .01$; and friends' attitudes and behaviors, $F(1,200) = 7.61$, $p < .01$. Among low self-conscious individuals, the significant predictors of alcohol use were: general behavioral deviance, $F(1,151) = 10.01$, $p < .01$; friends' attitudes and behaviors, $F(1,151) = 7.24$, $p < .01$; and parent's attitudes and behaviors, $F(1,151) = 5.30$, $p < .025$. Parental attitudes and behaviors were not significant predictors of alcohol use among high self-conscious individuals, nor was academic performance a significant predictor among low self-conscious individuals (both p's > .20). The latter non-effect suggests that the simple correlation between academic performance and alcohol use among low self-conscious individuals (see above) was due in part to relationships involving third variables. Church attendance was not a significant predictor in either group (high self-conscious, $F(1,200) = 1.14$, n.s.; low self-conscious, $F(1,151) = 2.43$, $p < .15$). However, it was included in the regression equation as an indicator of conventional behaviors. Thus, in accord with present reasoning, its inclusion helps to insure that academic performance is not simply functioning as an indicator of conventionality. Exclusion of this variable has no appreciable effect on the remaining variables.

The multiple R associated with alcohol use for low self-conscious subjects was $R = .46$, $F(5,151) = 8.03$, $p < .001$; for high self-conscious

subjects it was $R = .50$, $F(5,200) = 13.38$, $p < .001$. These multiple R's were not significantly different ($p > .20$).

Given these regression analyses, it is possible to test the hypothesis that the differential effect of academic performance as a function of level of self-consciousness continues to exist when other, known predictors of alcohol use are taken into consideration. In accord with predictions, the regression coefficient associated with academic performance is greater in the high as opposed to low private self-conscious group, $z = 1.81$, $p = .035$, one-tailed.

Public self-consciousness and social anxiety. Public self-consciousness and social anxiety were both negatively correlated with adolescent alcohol use in this sample (public self-consciousness, $r(483) = -.16$, $p < .01$; social anxiety, $r(484) = -.08$, $p < .05$.

Discussion

The results of the present study verify the hypothesis that variables related to personal success and failure are better predictors of alcohol consumption among high than low private self-conscious individuals. In addition, this was true even after taking into consideration other proven predictors of alcohol use. These findings support the self-awareness model of alcohol consumption and suggest that this model has identified a unique contributing factor to alcohol use, namely the motivation to reduce self-awareness when confronted with negative self-relevant feedback through alcoholic intoxication.

Earlier research has demonstrated the validity of the model in predicting relapse of adult males following alcoholic detoxification and alcohol consumption by adult males randomly assigned success or failure feedback on an intellectual task (cf. Hull & Young, in press). The present

study is unique in that it is the model's first test with adolescents and the first test to take into consideration variables relevant to alternative models of alcohol use. The self-awareness model's success under these conditions, in conjunction with the conceptually identical results reported in earlier studies, suggests that it is associated with a relatively unique, yet widely applicable motive to consume alcohol.

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Table 1: Items and Factor Loadings of Self-Consciousness Scale in High School Students.[a]

Item No.	F1	F2	F3
Private self-consciousness			
1		.21	.54
3(-)			
5			.54
7			.43
9(-)			
13	.30		.33
15	.20		.41
18			.49
20	.33		.37
22			.20
Public self-consciousness			
2	.35		.39
6	.58		.27
11	.59	.26	
14	.60	.24	
17	.40		
19	.66	.23	.21
21	.61		
Social anxiety			
4		.69	
8		.44	
10	.22	.65	
12(-)		-.50	
16	.22	.52	
23		.54	

[a] Only factor loadings greater than .20 are listed.

Table 2: Regression Results for the Prediction of Alcohol Use in High and Low Private Self-Conscious Groups

Variable	β	F	p
High Private Self-Conscious[a]			
Academic Performance	-2.96	14.33	.001
General Deviance	.35	8.48	.01
Friend's Attitudes/Behaviors	.61	7.61	.01
Family Attitudes/Behaviors	-.07	.08	ns
Religious Attendance	.37	1.14	ns
Low Private Self-Conscious[b]			
Academic Performance	-.87	1.07	ns
General Deviance	.44	10.01	.001
Friend's Attitudes/Behaviors	.70	7.24	.01
Family Attitudes/Behaviors	-.71	5.30	.01
Religious Attendance	.68	2.43	.15

[a] $\underline{R} = .50$, $\underline{R}^2 = .25$, $\underline{F}(5,200) = 13.38$, $\underline{p} < .001$.

[b] $\underline{R} = .46$, $\underline{R}^2 = .21$, $\underline{F}(5,151) = 8.03$, $\underline{p} < .001$.